

Chairman's Introduction

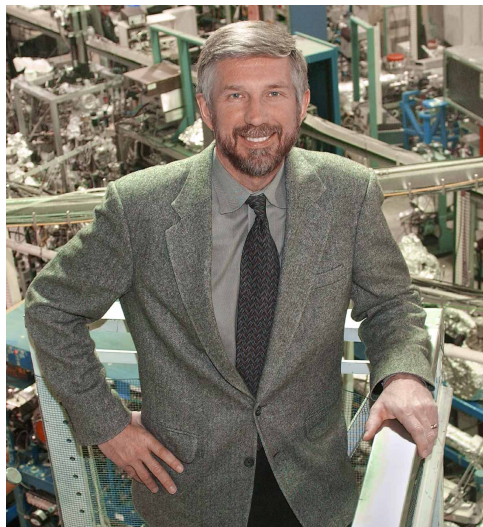
Steven Dierker

Chairman, National Synchrotron Light Source

The year 2002 has been another highly productive year at the NSLS and an impressive array of highlights from this scientific activity is included in this Activity Report. We have taken significant steps this past year toward better supporting beamlines and users. The number of user science support staff has been increased by about ten positions. We have also worked with our users, DOE, and the other DOE synchrotron facilities to develop a new, more flexible user access policy. Doing things safely remains a top priority, and we are reviewing our training and safety requirements to ensure they are thorough and everyone fully understands the necessity of abiding by them.

A major development this past year was approval from DOE for BNL to begin the conceptual design of the Center for Functional Nanomaterials (CFN). The CFN will have a dramatic impact on nanoscience in the Northeast, facilitating the synthesis, characterization and scientific exploration of new classes of novel nanostructured materials. It will be located adjacent to the NSLS and a number of NSLS beamlines will be optimized to serve the needs of the nanoscience community. The NSLS and CFN user programs will be coordinated to facilitate easy access to both in a single visit.

The VUV and X-Ray rings operated with excellent reliability as a result of continued attention to aging critical systems. I congratulate the staff in the Op-



erations and Engineering Division and extend them special thanks for their rapid response to a few potentially disruptive equipment failures.

The DUV-FEL achieved several important milestones this year, including production of Self-Amplified Spontaneous Emission (SASE) laser light at 400 nm and 266 nm, laser seeded saturation at 266 nm, and the first observation of High Gain Harmonic Generation (HG) light at 266 nm, with a third harmonic at 89 nm. Light from the

DUV-FEL is now enabling user science experiments in ion pair imaging and we look forward to an expanding user program and a continued series of pioneering accelerator physics studies.

In 2002, we continued to work with our user community to develop a plan to upgrade the capabilities of the NSLS. In the short term, we have a number of projects ongoing to upgrade insertion devices and beamlines to provide new and enhanced capabilities to our users. In the long term, recognizing the importance of meeting the future needs of our user community, we are working with DOE to formulate a plan for construction of a new state-of-the-art third-generation storage ring at NSLS to provide world class capabilities to our large and outstandingly productive user community.

Overall, it has been a very positive year at the NSLS and we look forward to an exciting year ahead.